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SOUTHERN FORESTRY NOTES

Southern Forest Experiment Station
New Orleans, Louisiana

Forest Service, U. S. Department of Agriculture

MISSISSIPPI'S TIMBER RESOURCES

The total amount of timber growing stock in Mississippi's forests is 10% less than it was 14 years ago, and the quantity of sawlog-size growing stock is 24% less. This marked decline in the State's forest resources was disclosed by the Mississippi Forest Survey of 1946-48, results of which will be published as Forest Survey Release 59. Changes in the timber supply were calculated by comparison with the State's first Forest Survey, made in 1932-35.

With many of Mississippi's wood-using operations searching actively for pine to cut, and with hardwood reproducing and growing aggressively in many areas, the standing-timber balance has been swinging from pine toward hardwood. This change has been accompanied by general shrinkage of timber supplies, especially of the better-quality and larger trees.

Total acreage of pine types (in which pines make up at least a fourth of the growing-stock trees) is down 23% in 14 years--from 9.6 million acres to 7.4 million. Hardwood types now make up 55% of the State's 16.5 million acres of commercial forest land.

Total growing stock (in trees 5 inches and larger d.b.h.) is 7.7 billion cubic feet. Of this, 57% is hardwood, and 43% softwood, largely pine. In the last 14 years, hardwood growing stock has about held its own, the rapid increase of small trees offsetting the decline of the large. Softwood growing stock has declined a fifth. Total growing stock has fallen off in all major regions of the State except the southern, where it has increased 11%. The drop in north Mississippi was 26%, in the Delta 18%, and in the central region 8%.

Sawlog growing stock totals 29.3 billion board

feet and averages 1,776 board feet per acre of forest land. Nearly six-tenths of the total is hardwood. Hardwood sawlog volume dropped 20% between the two surveys; softwood 29%. The decline for all species ranged from 41% in the north to 25% in the central region. In the south, sawlog volume rose 3%. The brunt of the overdraft on sawlog-size pine was borne by shortleaf and loblolly pines, shortleaf dropping 48% and loblolly 34%. A 31% rise in the volume of longleaf and slash pines was the main factor in south Mississippi's favorable trend. Red oaks increased 6% in sawlog volume; all other major hardwood groups declined.

What quality is this hardwood that is looming increasingly large in the saw-timber picture? Two-thirds of the volume is in grade 3 sawlogs--small logs, or logs which would yield chiefly ties, timbers, or low-grade lumber.

The long trend toward hardwood is continuing. About half the drain on total growing stock is hardwood. But nearly two-thirds of the growth is hardwood, and of this hardwood growth, two-thirds is in trees below sawlog size. The aggressive growth of small hardwoods as compared with small pines is one of the most notable features of Mississippi's forest situation.

To the decline in volume and quality and the increase of hardwood species must be added a fourth factor: that of tree size. The smallest trees have been on the increase while larger trees have become fewer. Since the first survey, the number of softwood growing stock trees 6 inches in d.b.h. increased 19%; 8-inch softwoods about held their own, and 10-inch and larger softwoods fell off, the rate of decline increasing with the diameter up to a 67% drop in trees 26 inches and larger. For hardwoods, the general story was the same, but the smallest trees increased faster than softwood (44% for 6-inch trees); the change from increase to decline came at 16 inches instead of 8; and the rate of decline for the large trees was lower (41% for trees 26 inches or more, d.b.h.).--Wm. A. Duerr.

PREVENTING DETERIORATION IN STORED HARDWOOD LOGS

Hardwood logs can be stored safely, even in summer, if each log is given an end coating to prevent checking and sprayed or painted with chemicals that prevent stain, decay, and insect damage.

Instructions which are available at the Southern Station cover formulae for mixing sprays or end coatings and give a partial list of suppliers of the materials. Depending on the size of the logs, control of insect and fungus damage by the methods recommended will run from 60¢ to \$1.20 per M, log scale, not including labor. Anti-stain treatments cost about 5¢ per M, and end coatings 15-20¢ per M. All treatments must be applied within 24 hours after cutting.--C. R. Lockard.

UNDERPLANTED LOBLOLLY PINES NEED EARLY RELEASE

Loblolly pine should not be planted under a hardwood canopy unless it is definitely planned to kill the hardwoods soon afterward. (To avoid damaging the pines by logging, hardwoods worth removing should be cut in advance of planting.)

A study was made in north central Mississippi of loblolly pines planted early in 1941 under an overstory mostly of blackjack and post oak. In 1948, after 8 years of suppression, survival averaged 52%; 17% of the survivors were weak and unthrifty and only 28% were vigorous. Average d.b.h. was 1.1 inches, average height 10 feet. Old-field plantations in the same locality usually average 3 inches d.b.h. and 20 feet high at 8 years, with 70% survival.

The overstory in 1948 averaged 228 trees per acre and 59 square feet of basal area, 98% of which was in 138 trees over 3.5 inches d.b.h. The size of the pines did not vary much under different amounts of overstory. Direct damage to the pines from ice storms was augmented by injury from hardwood stems and branches snapped off by ice. On the average, 22% of the pines had broken leaders, laterals, or

both; 36% of the stems were bent and 4% were held down by fallen hardwood limbs or stems.

Considering the very adverse stand conditions, the growth and survival of the pines were very good. However, a planting investment should not be jeopardized and returns delayed and reduced by postponing release so long.--B. J. Huckenpahler.

RECENT PUBLICATIONS BY STAFF MEMBERS

1/Arend, J. L., and Odell Julander. Oak sites in the Arkansas Ozarks. Arkansas Agricultural Experiment Station Bul. 484. 42 pp. Dec. 1948.

*Bull, Henry. Recommendations for thinning young slash pine. South. Forest Expt. Sta. May 1949.

*Gregory, G. R., and H. L. Person. Lumber values for East Texas pine logs. South. Forest Expt. Sta. Occas. Paper 113. 31 pp. March 1949.

X *Peevy, F. A. How to control southern upland hardwoods with Ammate. South. Forest Expt. Sta. Apr. 1949.

*South. Forest Expt. Sta. Guide to the East Texas Branch. 16 pp. May 1949.

*_____. Guide to methods-of-cutting plots, San Jacinto Experimental Forest. 15 pp. May 1949.

X *_____ and others. Prevention of deterioration in stored southern hardwood logs. 6 pp. May 1949.

Verrall, A. F. Protection of green forest products from fungus damage. Forest Farmer, Apr. 1949, p.4.

Papers delivered at meeting of Assoc. of Southern Agricultural Workers, Baton Rouge, La., Feb. 1949.

X *Bull, Henry, and R. S. Campbell. Recent research in poisoning southern weed hardwoods.

*Campbell, R. S. Scope of southern forest range work.

*Cassady, J. T. Utilizing forage on longleaf pine forest ranges.

X *Reynolds, R. R. Some results of forest management research at the Crossett Experimental Forest.

1/ Available at the University of Arkansas, College of Agriculture, Fayetteville, Arkansas.

* Copies are available at the Southern Station.